



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,953	02/07/2001	David L. Buchanan	740270-2662	5812
22204	7590	03/28/2005	EXAMINER	
NIXON PEABODY, LLP			KIM, CHRISTOPHER S	
401 9TH STREET, NW			ART UNIT	
SUITE 900			PAPER NUMBER	
WASHINGTON, DC 20004-2128			3752	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/777,953

Applicant(s)

BUCHANAN ET AL.

Examiner

Christopher S. Kim

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 and 21-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-19 and 34-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. The response filed January 18, 2005 is acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 12-19 and 34-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 12 recites "and said inner peripheral surface of said nozzle support portion has a diameter at said proximal end adjacent to said tip..." in lines 22-23. Claims 34-36 contain similar recitations. The disclosure as originally filed does not disclose a "proximal end adjacent to said tip." The nozzle support portion 230 has one end which is attached to the proximal end 215 of the retainer 214, and the nozzle support portion 230 has another end which is adjacent to the tip 32. The proximal end 215 and the tip 32 are not adjacent, unless "adjacent" is

interpreted to mean near or close. In which case, it is uncertain what constitutes near or close. The proximal end 215 and the tip 32 have an intervening structure, the nozzle support portion 230. (See specification, page 13, paragraph 35)

5. Claims 12-19 and 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites "said nozzle support portion having an outer peripheral surface and an engagement opening..." in lines 5-6 and "said integral nozzle shank and said nozzle support portion define an engagement opening..." in lines 20-21. There appears to be a double inclusion of an "engagement opening." Claims 34-36 contain similar recitations.

Claims 12 and 34-36 recite "...adjacent..." It is uncertain what degree of proximity is encompassed by the recitation.

#### ***Claim Rejections - 35 USC § 102***

6. Claims 12, 19 and 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Stevens (6,053,432).

Stevens discloses a fuel injector comprising: a substantially tubular retainer 18; a nozzle housing 10; an interference fit (column 2, lines 29-31); a coolant jacket sleeve 19 (claim 12); a barrel 19 (claim 35).

#### ***Claim Rejections - 35 USC § 103***

7. Claims 13, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens (6,053,432).

With respect to claims 13, 14, 16 and 17, Stevens discloses the limitations of the claimed invention with the exception of the ranges of the interference fit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided an interference of 0.001 to 0.0006 inch for optimization dependent on application criteria, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

8. Claims 12, 15, 18 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (6,000,638) in view of Stevens (6,053,432).

Martin discloses a fuel injector comprising: a substantially tubular retainer 186; a nozzle housing 182; an interference fit (column 4, line 63). Martin discloses the limitations of the claimed invention with the exception of a plurality of injection holes. Stevens discloses one or more outlets 14 to spray fuel. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided a plurality of injection holes in the device of Martin as taught by Stevens to increase fuel dispersion.

Regarding claim 18, the recitation "the nozzle shank is press fitted into said engagement opening of said nozzle support portion" renders the claim a product by process claim that achieves the interference fit. The recitation "press fitted" has not been given patentable weight. MPEP 2113.

### ***Response to Arguments***

9. Applicant's arguments filed September 30, 2004 have been fully considered but they are not persuasive.

Applicant argues that Stevens does not disclose the integral nozzle shank and the nozzle support portion define an engagement opening therebetween, and that an interference fit exists at a seal interface adjacent the tip of the nozzle shank. In light of the new matter rejection under 35 U.S.C. 112, first paragraph and the indefinite rejection under 35 U.S.C. 112, second paragraph, the tip of Stevens is considered to be that portion of nozzle housing 10 which is down stream of retainer 18. Additionally, "adjacent" has been considered to mean "close to" rather than "next to" or "adjoining".

Applicant's argument directed to Martin is not commensurate in scope with the claimed invention.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


Art Unit: 3752

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Christopher S. Kim  
Primary Examiner  
Art Unit 3752

CK